Chapter 5

Terrestrial Plants and Animals

Chapter 5

Terrestrial Plants and Animals

5.1 Primary Issues

No substantive comments were received that specifically address this section.

5.2 Affected Environment

Comment C-5.004

The DEIS fails to document when and how plant and animal assessments were done. A more detailed survey for species at this site and the open water is needed.

Vashon-Maury Island Community Council

Comment O-1.232

5.2 p. 5-2. This section states that existing plant and animal communities at the site have been documented based on: a plant and wildlife assessment prepared by Raedeke Associates. However, none of the material in Chapter 5 references this assessment. On the contrary, there is no effort made to quantify and wildlife populations and, for such a small site, there is little actual observation data provided.

Ortman, David

Comment O-1.233

What kind of plant and wildlife assessment did Raedeke Associates carry out? Did the applicant pay for this assessment?

Ortman, David

Comment O-1.234

This section states that Jones & Stokes Associates wildlife biologists conducted site visits and wildlife inventories. Please provide the wildlife biologists who conducted these site visits and the dates these site visits were made.

Ortman, David

Comment

Jones & Stokes indicated in their quick review of plant and animal's listed or proposed for listing under the Endangered Species Act, or other species listed by the state, tribes, or King County as sensitive would have No significant impact on the listed species. I strongly disagree with the weak data that was collected over an inadequate amount of time. I hereby request additional

data and research into this topic before making any decision that will effect these species.

Chilbert, Mark

Comment

"Site visits" and an obviously cursory review of existing literature is not adequate to assess potential impacts of the Proposed Action. What protocols were used for plant and animal surveys? Where are the data from fall migration surveys, plot-intercept surveys, and stand examinations? These methods are appropriate for a site that Lonestar proposes to destroy.

Boyle, Matthew

Comment O-1.220

5.2.2 p. 5-5. This chapter states that existing plant and animal communities at the site have been documented based on a plant and wildlife assessment prepared by Raedeke Associates. However, none of the material in this section references this assessment. Specifically, what existing plant and animal communities did Raedeke Associates document?

Ortman, David

Comment O-1.221

5.2.2.1 p. 5-5. What were the dates of the spring bird surveys conducted at the site by Jones & Stokes?

Ortman, David

Response

Wildlife surveys are not required in preparing an EIS, as stated in WAC 197-11-440(6):

Succinctly describe the principal features of the environment that would be affected, or created, by the alternatives including the proposal under consideration. Inventories of species should be avoided, although rare, threatened, or endangered species should be indicated.

Jones & Stokes certified wildlife biologist and project manager, Steve Hall, and wildlife biologist Stephanie Simek conducted site inspections to verify and refine data presented in the Raedeke Report. In addition, Dr. Christopher Earle, a Jones & Stokes forest ecologist, conducted a site evaluation of madrone and also lead a field trip with a King County biologist and DDES staff. This information, together with the studies conducted by Raedeke Associates, meets the intent and requirement of SEPA.

The report by Raedeke Associates was incorporated by reference per WAC 197-11-635: which states that:

(1) Agencies should use existing studies and incorporate material by reference whenever appropriate.

(2) Material incorporated by reference (a) shall be cited, its location identified, and its relevant content briefly described; and (b) shall be made available for public review during applicable comment periods.

The study was cited at the beginning of Chapter 5 as the primary reference for the chapter. It was not necessary to repeatedly cite or reference this report. The location of the Raedeke Report and other background information was noted on page iv of the Fact Sheet, per SEPA (documents were at King County and/or the offices of Jones & Stokes). No one has requested to look at these materials.

In summary, the site was inspected and evaluated by several wildlife biologists. Wildlife inventories are discouraged under SEPA to avoid the mass accumulation of data and species lists that provide little or no relevant information.

It is sufficient and, indeed, preferable, to clearly state the major habitats present, the key species that use those habitats, and the impacts and mitigation on those species and habitats, as done in the DEIS and FEIS.

5.2.1 Threatened, Endangered, and other Sensitive Animal Species

5.2.1.1 Bald Eagle

Comment G-2.01414

5.2.1.1. The use of the site by bald eagles has not been thoroughly examined, and the data presented are poorly documented. Further research should be required to understand the impact of the proposal on the bald eagle community.

Washington Environmental Council

Comment C-5.006

The DEIS implies that only nesting territory is necessary for survival of the Bald Eagle. It does not adequately address the species' need for foraging, feeding, and perching habitat, nor how the site meets those needs.

Vashon-Maury Island Community Council

Comment

Section 5.2.1.1. Bald Eagle fails to take into account that eagle populations in Puget Sound are increasing, and therefore all suitable nesting, perching and roosting locations are not in use. Eagles select alternate nest locations, built over several years, to

take advantage of changing stand conditions and improve septic conditions within each nest. The high shoreline bluff within and surrounding the project area is excellent eagle habitat. Alteration or destruction of this habitat precludes the expanding bald eagle population from using this territory.

Boyle, Matthew

Comment

Paragraph three, bullet 2 [page 5-8]. While eagles are adapting to human presence and activities, sustained noise and light levels of this magnitude cannot be compared to any of the listed disturbances (joggers?). Any activity during the mid-winter nest site selection and construction period would flush eagles from suitable habitat.

Boyle, Matthew

Comment

The DEIS implies that only nesting territory is necessary for the survival bald eagles. The DEIS does not adequately address the need for foraging, feeding, and perching habitats, nor how this site meets those needs.

Collier, Pat

Response

The key concern for bald eagles is the availability of communal roosts, nests, and associated perch sites, as defined in the Washington State Bald Eagle Protection Rules (WAC-232-12-292). The shoreline is used by bald eagles, and bald eagles fly over the site fairly regularly, but the primary concern is nest sites and nearby foraging habitat, and the closest nest is over 3 miles away.

Some individual bald eagles that would otherwise use the project area may use it less or avoid it altogether while active mining is going on. In the most conservative (i.e., the worst-case) assessment, the entire 800 feet of shoreline would no longer provide habitat for bald eagles. This would result in a decline of about 0.5 percent in available habitat on Vashon/Maury Islands (assuming that about half of the Vashon/Maury Island shoreline is currently habitat).

Some considerations regarding the significance of this impact include the fact that bald eagle populations are well above the recovery goals for Washington. This does not mean that protecting eagles is not important, but it does mean that marginal effects of disturbance outside of nesting areas is not a major concern. In addition, the degree of disturbance and avoidance that would actually occur may turn out to be negligible. Eagles that nest along Puget Sound are accustomed to shipping and other non-threatening activities that are common along the shores of Puget Sound, so

bald eagles would likely continue to use some of the shoreline in the area, including portions of the site.

5.2.1.2 Peregrine Falcon

Comment C-5.006

The DEIS implies that because habitat features are available for peregrine falcon at other sites it is acceptable to diminish utilization at this site. The DEIS does not adequately address the habitat needs of this species nor how the this site meets those needs.

Vashon-Maury Island Community Council

Comment

Section 5.2.1.2 Peregrine … fails to take into account that … populations in Puget Sound are increasing, and therefore all suitable nesting, perching and roosting locations are not in use.

Boyle, Matthew

Comment

The DEIS implies that because peregrine falcon habitat features are available at other locations it is acceptable to diminish utilization at this site. The DEIS implies that because other habitat is available it is not important to protect all of the habitat and/or all the pieces of the habitat. The DEIS does not adequately address the habitat needs of this species, nor how this site meets those needs. The amount of habitat needed to sustain peregrine falcons on this island is not addressed.

Collier, Pat

Response

Peregrine falcons do not use the site as primary nesting, feeding, shelter, or resting area. These comments provide no evidence to the contrary. Individuals may fly by the site, or potentially even linger in the vicinity during winter. Mining activity may cause such individuals to avoid the site, either directly or indirectly, by causing prey to avoid the area (waterfowl). But the site and surrounding areas do not provide unusually high concentrations of prey.

If this area were a concentration area for foraging or nesting, then the project may be a concern and additional analysis may be warranted. Since it is not, and use is infrequent or absent, then peregrine falcons are not a major concern.

As a side note, peregrine falcon populations have greatly recovered and the USFWS has removed the species from list of endangered or threatened species.

5.2.1.3 Other Sensitive Species

King County Policy

Comment

I request that the Lonestar permit application be denied as these actions do not conform to the King County Comprehensive Plan. Specific King County Comprehensive Plan policies which support this request for denial, are as follows:

Section CP-1205 of the King County Comprehensive Plan which states:

"Protect and preserve the Island's wildlife habitats."
Jake Jacobovitch, President, Vashon-Maury Island Council

Response

Chapters 5 and 6 of the FEIS include numerous mitigation measures to protect and preserve wildlife habitat.

The Comprehensive Plan policy referenced in the comment does not mean that all wildlife habitat on Vashon/Maury Islands must be unconditionally and categorically retained. If that were the case, then this policy would essentially ban development of all undeveloped land on the Island.

Comprehensive plan policies tend to include very general policy statements such as the one referred to in the comment. Such general policies cannot be looked at in isolation, but rather need to be looked at in the context of the entire comprehensive plan.

King County has a strong commitment to maintain rural areas and to protect fish and wildlife habitats. Still, growth and development are unavoidable on Vashon/Maury Island and throughout King County. With growth comes the unavoidable loss of wildlife habitat. The comprehensive plan policy referred to in this comment provides direction to planners to balance the need to protect our natural areas with the need to provide rural living opportunities and other rural functions, such as logging, farming, and mining.

The FEIS includes numerous mitigation measures to preserve wildlife habitat values at the site. Loss of wildlife habitat, at least temporarily, would be unavoidable. These factors have been considered and evaluated in the EIS. The decision-maker will incorporate protection of wildlife and fish habitat into the decision, as justified by the magnitude of impacts attributed to the proposal, and as allowed under King County's substantive authority under SEPA.

Comment

I request that the Lonestar permit application be denied as these actions do not conform to the King County Comprehensive Plan. Specific King County Comprehensive Plan policies which support this request for denial, are as follows:

Section CP-1207 of the King County Comprehensive Plan which states:

"Fish and wildlife habitats identified on Vashon Island and considered to be especially unique and valuable or of potential county wide significance should receive special attention."

Jake Jacobovitch, President, Vashon-Maury Island Council

Response

Fish and wildlife habitat have received special attention in the EIS. The two chapters addressing fish and wildlife habitat (Chapters 5 and 6) are the two largest chapters of the Draft and Final EISs, which reflects the importance King County has placed on these topics.

Comment

I request that the Lonestar permit application be denied as these actions do not conform to the King County Comprehensive Plan. Specific King County Comprehensive Plan policies which support this request for denial, are as follows:

Section NE-603 which states:

"Habitats for species which have been identified as endangered, threatened, or sensitive by the state or federal government shall not be reduced and should be preserved. In the Rural and Natural Resource Lands, habitats for "candidate" priority species identified by the County, as well as species identified as endangered, threatened, or sensitive by the state or federal government shall not be reduced and should be preserved."

Jake Jacobovitch, President, Vashon-Maury Island Council

Response

These policies have been added to the analysis in Chapter 5 of the FEIS.

Comment

I request that the Lonestar permit application be denied as these actions do not conform to the King County Comprehensive Plan. Specific King County Comprehensive Plan policies which support this request for denial, are as follows:

Section NE-604 which states:

"King County shall designate and protect the following Fish and Wildlife Habitat Conservation Areas found in King County:

a. Habitat for federal or state listed Endangered, or threatened species.

b. Habitat for Salmon or Local Importance: kokanee/sockeye/red salmon, chum salmon, coho/silver salmon, king/chinook salmon, and pink salmon, coastal resident/searun cutthroat, rainbow trout/steelhead, and pygmy whitefish;

c. Habitat for Raptors and Herons of Local Importance: red-tailed hawk, osprey, black-crowned night heron, and great blue heron;

d. Commercial and recreational shellfish areas;

e. Kelp and eelgrass beds;

f. Herring and smelt spawning areas;

g. Wildlife habitat networks designated by County, and

h. Riparian corridors.

Jake Jacobovitch, President, Vashon-Maury Island Council

Response

This policy is addressed in Chapters 5 and 6 of the FEIS.

Comment

The DEIS does not adequately address the conservation significance of of the madrone forest as habitat for species of concern, such as the band-tailed pigeon, pileated woodpecker, flycatchers, and others.

The DEIS does not address the value of the madrone forest for winter feeding for many bird species including species of concern.

Collier, Pat

Response

Chapter 5, which addresses impacts on madrone forest, has been substantially supplemented and improved to address concerns regarding madrone forest and sensitive species. Madrone is not officially designated by King County as a habitat of local importance, nor is it mentioned in the comprehensive plan or in King County Code.

Olive-Sided Flycatcher

Comment C-5.006

The DEIS states that the olive-sided flycatcher may nest on the site where mining has created open clearings, although none were observed at the site during the spring surveys. This statement is questionable as no details are included about the spring surveys: methodology, dates, weather, time.

Vashon-Maury Island Community Council

Response

Clearing and mining would reduce potential habitat for this species. Additional information has been included in the FEIS. The site does not contain habitat that would make this site particularly important to this species. The site would continue to provide some forest/open edge habitat that this species prefers.

Spring surveys were conducted to collect general presence of species and not to conduct a complete inventory of all species present at the site. Per SEPA, 197-11-440, such inventories are not required to evaluate impacts:

Succinctly describe the principal features of the environment that would be affected, or created, by the alternatives including the proposal under consideration. Inventories of species should be avoided, although rare, threatened, or endangered species should be indicated.

Pileated Woodpecker

Comment C-5.006

The DEIS does not address the probability that the pileated woodpeckers may have adapted to full utilization of this "marginally suitable habitat because of the lack of availability of more typical habitat on this small island. The DEIS also does not address the amount of foraging habitat pileated woodpeckers need to survive, what percentage of foraging habitat would be removed if this project were approved, or the implications for the survival of pileated woodpeckers if the proposed project were approved.

Vashon-Maury Island Community Council

Response

Clearing would reduce potential foraging habitat as identified in the FEIS. Most of the site is not of unusually high quality for this species. It does not contain large amounts of mature Douglas-fir and large, downed logs.

Comment

A number of qualitative statements are made concerning site habitat quality that should be confirmed by outside experts. For example, is the existing forest "marginal habitat" for pileated woodpecker and cavity-nesting birds? What portion of Maury Island will be directly impacted by the project? How does this site compare to others on the island with regard to habitat quality?

Kuperberg, J. Michael, Ph.D.

Response

Chapter 5 has been supplemented considerably to provide additional information and analysis on wildlife habitat. The EIS Team is an independent consulting firm under contract to King County and not the Applicant.

Comment

Section 5.2.1.3, Other Sensitive Species, paragraph 6. This paragraph states that the site does not contain a large quantity of dead and dying materials and therefore, is only marginally suitable for pileated woodpeckers. It should be noted that the proposed action would render the site unsuitable for all forest dwelling species for at least 30 years and for pileated woodpeckers and other snag-dependent species for over 100 years (not 50) beyond that.

Boyle, Matthew

Response

The loss of wildlife habitat is unavoidable, and has been described in the EIS.

Comment

The DEIS does not address the implications for the survival of this species (pileated woodpecker) on Maury Island if the proposed project were approved. There is no documentation to support the contention that important foraging area will not be disrupted.

Collier, Pat

Response

The analysis of pileated woodpecker habitat in the FEIS has been supplemented in response to this and other comments.

Cavity-Nesting Birds

Comment C-5.006

The DEIS fails to document "lack of suitable nesting habitat." This contradicts studies of cavity nesting birds use of madrone. The DEIS does not address the implications for survival of these

species and other species if the proposed project were approved.
Vashon-Maury Island Community Council

Response

The FEIS includes a discussion of madrone use by cavity-nesting birds. Studies citing the use of madrone by cavity-nesting birds are for different forest types than are present on the site, and actual use was higher for only two species in those studies. Loss of mature forest and habitat for cavity nesting birds (such as woodpeckers and chickadees) would be an inevitable result of mining at the site, and is discussed in Section 5.3.1.1. Loss of such habitat, while adverse and surely not desirable, is not sufficiently severe to be considered significant under SEPA.

King County is considering requiring additional reforestation to mitigate loss of madrone. This measure would help offset losses to cavity-nesting birds.

Comment

The DEIS does not address the potential impact on the survival of cavity nesting birds on Maury Island of delaying development of habitat for 50 years.
Collier, Pat

Response

The FEIS includes supplemental information regarding cavity-nesting birds and the role of madrone forest as habitat for such birds (FEIS Sections 5.2.1.3 and 5.3.1.1).

Other Issues

Comment G-3.013

13. Section 5.2.1.1. This section states that "bald eagle is the only threatened or endangered species that occurs regularly in the project vicinity." This is blatantly false, as evidence by Section 6.3.7.1, Marine Animals, which states that "juvenile salmon are expected to occur near the project site." There is no reason to assume that chinook would not be included in this group, and it's interesting that King County did not require the consultants to survey for the presence of chinook, despite the fact that the DEIS was being prepared during their normal migration season.
People for Puget Sound

Response

We corrected this factual error in the FEIS. This statement was intended to mean threatened *terrestrial* wildlife, but the comment is technically correct. Chapter 6 in the DEIS discusses the threatened status of Puget Sound chinook salmon at length.

Migration surveys were not conducted since there is no accepted method to quantify migration levels, there are no criteria on which to base conclusions even if an accepted method existed, and, finally, such information was not essential to determine significant adverse impacts or to make a reasoned choice among alternatives. Juvenile salmon are sure to move along the shoreline at the site, as they are just about anywhere in Puget Sound. Still, the site is located on an island with no major salmon-producing streams, so any salmon migrating past the site would have crossed the open waters of Puget Sound and, therefore, would be expected to be adapted to the marine environment.

The situation may be different if the site were located in an estuary or near the mouth of a major salmon river, but this is not the case.

Protection of salmon is a major priority of King County. The executive, county council, DDES, and King County DNR, among others, are committing significant resources to protect and restore salmon in the County. For this project, the EIS team has worked intensively on issues related to salmon and other marine organisms, such as herring and eelgrass. See Chapter 6 for assessment of impacts and mitigation measures for salmon.

Comment O-1.219

5.2.1, p. 5-2. Jones & Stokes has failed to provide a clear analysis of Taiheijo Cement Corp's proposed action regarding terrestrial plants and animals. In order to probably understand the impacts of the proposed project on such a small island ecosystem, please provide a specific detailed analysis on all threatened, endangered and other sensitive animal species that utilize Maury Island as a whole and what percentage of this use occurs on the proposed project site.

Ortman, David

Response

More detailed study, including the request to conduct a survey for all sensitive species on Maury Island, is unnecessary. Such a study would not provide useful information on significant adverse impacts essential to a reasoned choice among alternatives. SEPA clearly discourages encyclopedic collection of data and encourages information to be concise and to the point. For example WAC 197-11-402 states that:

… descriptions of the existing environment should limited to the affected environment and shall be no longer than is necessary to understand the environmental consequences of the alternatives, including the proposal.

Also per SEPA, 197-11-440(6) Affected environment, significant impacts, and mitigation measures:

Succinctly describe the principal features of the environment that would be affected, or created, by the alternatives including the proposal under consideration. Inventories of species should be avoided, although rare, threatened, or endangered species should be indicated.

Chapters 5 and 6 identify and describe rare, threatened, and endangered species. Additional study, including the island-wide inventory described in the comment, is not warranted and is, in fact, counter to the direction provided in the SEPA Rules.

5.2.2 Plant Communities and Habitat

5.2.2.1 Overview

Comment O-1.222

p. 5-6. It states in Sec. 5.2.2.1 that Pacific chorus frogs are the only amphibians that have been documented on the site. However in Table 5-1, p.5-22 it states "Potentially used by amphibians, such as Pacific chorus frog" and Pacific chorus frogs are mentioned nowhere else in this table. This is just one of an enormous number of, in the words of the Seattle Corps District Engineer, "missing, inadequate, and erroneous information" that plague Jones & Stokes DEISs. Decisionmakers and the public can not properly evaluate a DEIS when such contradictory information infests the document. Please clarify whether and where Pacific chorus frog have been documented on the site.

Ortman, David

Response

Pacific chorus frogs *are* the only amphibians that have been documented at the site.

5.2.2.2 Madrone Forest

Many commenters expressed concern about reduction in madrone forests and questioned conclusions regarding madrone regeneration. To address these questions and concerns, Section 5.2.2.2 has been revised to more thoroughly document the existing madrone forest, the vegetative history of the site, and aspects of madrone biology relevant to potential impacts under the

proposed action. Answers to specific questions are presented below.

Madrone Biology

Comment O-1.228

It states that some notably large madrone trees are on the site. Please describe the size and age of these large madrone trees. What is the typical lifespan of a madrone tree?

Ortman, David

Response

The largest madrone trees on the site are approximately 60 cm dbh and 16 m tall. It is not uncommon for large mature trees to live longer than 100 years. Most of the mature trees on the site are 60–70 years old.

Comment O-1.236

5.3.2.1 p. 5-10 states that madrone become established in disturbed areas. How does this process work? Are seed spread by wind, birds, what?

Ortman, David

Response

Regeneration of madrone is discussed in Section 5.2.2.2. Birds are the primary dispersal agent for madrone seeds, and small mammals are probably also effective dispersal agents. Gravity may be a significant factor on the very steep bluffs where madrone often grow. Once established, madrone often spread rapidly by suckering (shoots growing from the ends of roots).

Madrone Health

Comment

The DEIS does not address loss of Pacific madrone habitat as a contributing factor to an apparent decline of the species' population in the Pacific Northwest.

Collier, Pat

Response

As noted in the FEIS, the madrone stand is one of the largest in the state.

Comment C-5.013

(part 1 of 2) The DEIS is misleading. The Chappel and Giglio document states that this (stands become old and vulnerable to disease) is speculation. The DEIS disregards studies that have found that madrones in managed landscapes are showing more signs of decline and are more susceptible to pathogens than

unmanaged pure stands.

Vashon-Maury Island Community Council

Response

As discussed in Section 5.2.2.2, decline in madrone in the Puget Sound region is due mainly to fungal disease affecting cultivated and/or isolated madrone stands in urban settings. Studies of madrone in managed landscapes (e.g., Adams et al. 1999, Bressette and Hamilton 1999, Elliot 1999) are not applicable to the analysis because they describe madrone decline in horticultural applications, an ecological setting that is neither present nor projected to occur in the study area.

Comment C-5.007

(part 8 of 8) The DEIS implies this stand is unhealthy, but no documentation is given to substantiate this.

Vashon-Maury Island Community Council

Response

The DEIS states that "stands on the site appear relatively healthy overall" (p. 5-6). The generally healthy condition of onsite stands and the absence of significant decline are described in the FEIS Section 5.2.2.2 as revised.

Comment C-5.010

(part 3 of 4) The DEIS does not address loss of madrone [on the site] as a contributing factor to a decline of the species' population in the Pacific Northwest.

Vashon-Maury Island Community Council

Response

The FEIS describes the ongoing loss of madrone in our region. The proposed action is not expected to contribute to regional madrone decline over the long term.

Site Conditions

Comment O-1.230

It states that many remaining madrone stands are located along steep bluffs. Do these stands on steep bluffs also include Douglas-fir? How many such madrone stands on steep bluffs are larger than 74 acres?

Ortman, David

Response

Douglas-fir is sometimes present in madrone stands on bluff slopes, but rarely comprises more than 10% of the forest canopy. Most bluff madrone stands are devoid of conifers. There are no published data on the size of bluff madrone stands, but

reconnaissance work performed during this assessment indicates that comparably sized stands occur on Maury Island both north and south of the proposed project site.

Comment O-1.231

Table 5-1 p. 5-21. Please provide a map showing each of these vegetative communities. Please provide a reference for each of the statements found under "Associated Wildlife" in this table.

Ortman, David

Response

Maps of existing vegetation communities and site history have been included in Section 5.2.2.2 of the FEIS. "Associated Wildlife" data are based on literature review of regional biota, direct observation, and the opinion of a certified wildlife biologist.

Comment G-3.014

(part 2 of 2) The assertion in 5.2.2.2, Madrone Forests, that "pure stands of madrone present on the site are not representative of natural madrone ecosystems" is not at all a known fact. The significance of contiguous madrone forests is hotly contested and poorly studied, and this discussion should be informed by more than the one reference cited.

People for Puget Sound

Comment O-1.242

(part 1 of 2) It states that left uncontrolled, some reclaimed areas could develop stands of Scot's broom mixed grasses, and other weedy species that provide poor wildlife habitat and that this has occurred on some areas of the existing site. This section also states that reclamation has not taken place on past mining areas, but then refers to these same areas as "existing cleared areas". Can the DEIS provide a clear picture of where mining on the site has previously taken place?

Ortman, David

Comment

The DEIS implies that stands of madrone without Douglas-fir are unnatural. The probability that madrone dominate the canopy in conditions that are not suitable for Douglas-fir is not addressed.

Collier, Pat

Comment

5.7.1 What is the basis for the conclusion that "the Lone Star site, would not be considered a prime example of a natural madrone community".

Kuperberg, J. Michael, Ph.D.

Response

Section 5.2.2.2 has been revised to include an expanded description of vegetation types at the site, and maps detailing the history of land use (logging, mining) and forest conditions on the site since it was extensively logged and burned during the 1930s. The historical data show that the current madrone forest on the site is not a "natural" forest, if the term "natural" is taken to imply an absence of human intervention, but rather has replaced forests of conifers that had been logged. As discussed in Section 5.2.2.2, areas mined during the 1970s are being revegetated naturally by madrone in many places, and by weedy non-native species in a few locations.

Comment O-1.242

(part 2 of 2) Please describe any reclamation activity that has taken place to date on the site and, if none has been taken, why not?

Ortman, David

Response

To date no reclamation activity has been taken because none has been required by King County or WDNR regulations.

Comment

5.6.5. Semantics aside, the site appears to host a significant madrone forest.

Kuperberg, J. Michael, Ph.D.

Response

As noted in the FEIS, the madrone stand is one of the largest in the state.

Regional Distribution

Comment

The DEIS fails to adequately address the rarity of madrone dominated forests.

Collier, Pat

Comment

The DEIS does not adequately nor accurately address the importance to the region of this plant community for the conservation of biological diversity due to its rarity, declining trend, threats and limited distribution.

Collier, Pat

Comment

The DEIS fails to address the difference between occurrence of specimens of madrone which are still "relatively common" and the uncommon occurrence of the madrone plant community or forest.

The DEIS does not address the rarity of stands where the canopy is predominantly madrone. The DEIS does not adequately address the Washington Natural Heritage Program ranking of the Douglas Fir-Pacific madrone community as a Priority 1, nor the reasons for this ranking: its limited distribution in Washington, threats, lack of protection.

Collier, Pat

Response

The DEIS noted that "madrone stands have been declining," (page 5-11), and that "stands larger than 40 acres are becoming rare in the region" (page 5-6), and included mitigation measures to protect madrone forest (Section 5.4.2.2 of the DEIS). In response to these and other public and agency comments, the analysis in Sections 5.2.2.2, and 5.3.2, and 5.3.3 have been expanded to more thoroughly document impacts to madrone forest and the site, and additional mitigation measures have been developed in Section 5.4.3. Still, madrone is not protected by specific law, nor can madrone be considered a rare species.

5.3 Impacts

5.3.1 Would the project adversely affect a plant or animal listed or proposed for listing under the Endangered Species Act, or any other species listed by the state, tribes, or King County as sensitive?

5.3.1.1 Proposed Action

Comment

Section 5.3, Impacts. Paragraph one. Please define "key habitat". Suitable habitat would be destroyed.

Boyle, Matthew

Response

The FEIS includes more detail regarding key habitat. Specifically, key habitat are those areas which are essential for survival, including nest sites, roosts, and primary foraging areas.

Comment Paragraph two [Section 5.3.1]. All State laws still apply to the site. No fall or winter roosting surveys were conducted.
Boyle, Matthew

Response Fall "roosting" is not identified under the Bald Eagle Protection Rules. Winter roost surveys were not necessary because most of the site contains madrone, which is not a typical roosting tree, and because eagles have never been reported to be roosting on the site.

Comment O-1.239 Plant or animals/Proposed Action: It states that Olive-sided or willow flycatcher nests could be destroyed during clearing if trees are removed. What kind of trees are referred to in this summary?
Ortman, David

Response The FEIS describes how willow flycatchers typically use shrubby habitats and olive-sided flycatchers typically use large trees adjacent to clearings.

Comment C-12.012 Effect on terrestrial species—where are the data on ranges of local nesting pairs, numbers of pairs, etc.? Vegetative clearing would impact raptors by reducing the number of old snags that serve as feeding and nesting perches. Reclaimed areas will not provide suitable habitat for olive-sided flycatchers and other birds for several human generations. Clearing-caused nest destruction is not the only significant impact of the proposed action. Of greater significance is the loss of buffers and suitable habitat in surrounding areas.
St. George, Brian

Comment Table S4 Sections entitled "No significant impacts on [great blue heron]." Since 2 miles is "too far from the site to be impacted," what is the distance that would be considered close enough to be impacted? What is the basis for this value? Will the proposed stormwater retention ponds increase site use by osprey, herons, etc.? If so, is this good or bad?
Kuperberg, J. Michael, Ph.D.

Comment This year more than 700 nest of the Great Blue Heron failed in coastal Washington and British Columbia, including the 400-nest colony at Birch Bay. This is a significant portion of the 5,000 nest estimated in existence for our unique subspecies of blue heron, Ardea herodias fannini. Herons have abandoned three colonies on Vashon and Maury in the past six years. Coastal herons are

abandoning their nests because of eagle harassment, and the eagles appear to be turning to avian prey because of the reduced number of salmon (and herring).

Mark Chilbert

Response

Red-tailed hawks (a type of raptor) regularly forage on the site and the site is suitable for nesting, but no nests have ever been found there. The project would remove perch trees and foraging habitat, as well as create foraging habitat, since hawks prefer cleared areas for foraging. In fact, the primary reason that hawks forage on this site is that areas have been cleared in the past due to mining and related activities.

Olive-sided flycatchers and willow flycatchers are not formally designated by King County as "Priority Species of Local Importance" per King County Policy NE-605. Willow flycatchers are present on the site and olive-sided flycatchers are assumed to be present. Habitat would be reduced for these species as vegetation is cleared. Habitat for both of these species would remain along site edges and buffers and the dense, shrubby habitat preferred by willow flycatchers would return on sites in about 15 years following restoration.

While great blue heron regularly forage along the shoreline, and osprey and black-crowned night heron may be present from time to time, the site is not considered "habitat of local importance." They don't nest on the site or otherwise depend on the site for survival, but rather use it as part of large foraging territories.

The King County Comprehensive Plan, the WDFW Priority Species List, and the definition of "habitats of local importance" in the GMA provide the regulatory basis for the distinction between mere presence and the presence of breeding or other critical habitat.

As stated in the King County Comprehensive Plan:

It is important to note that for some species, mere presence is not considered significant. Significant habitats, for some species, are those areas that may be limited during some time of the year or stage of the species life cycle.

The GMA (WAC 365-190-030) defines Habitats of local Importance as:

a seasonal range or habitat element with which a given species has a primary association, and which, if altered, may reduce the likelihood that the species will maintain and reproduce in the long-term.

Finally, the WDFW priority species list provides another definition that makes a clear distinction between mere presence and significant use areas. For this EIS, a significant use of the site was considered to be a use that meets the WDFW definition of a "Priority Area." The following is taken from the WDFW Priority Species List (WDFW 1999, available at http://www.wa.gov/wdfw/wlm).

PRIORITY AREA: Species are often considered a priority only within known limiting habitats (e.g., breeding areas) or within areas that support a relatively high number of individuals (e.g., regular large concentrations). These important areas are identified in the PHS List under the heading Priority Area. For example, great blue herons are often found feeding along shorelines, but they are considered a priority only in areas used for breeding (see criterion 2). If limiting habitats are not known, or if a species is so rare that any occurrence is important in land-use decisions, then the priority area is described as any occurrence.

Therefore, the mere presence of osprey and great blue heron does not make the site habitat of "local importance."

Threatened and Endangered Species

Comment

The DEIS does not address potential impacts for all species listed by the Washington Department Fish and Wildlife as priority species which may be found at this site.

Collier, Pat

Comment C-5.005

The DEIS does not address potential impacts for all priority species listed by the Washington Dept. of Fish and Wildlife at this site.

Vashon-Maury Island Community Council

Response

Additional information regarding sensitive species has been added to the FEIS.

5.3.1.2 Alternative 1

No comments were received that specifically addressed this section.

5.3.1.3 Alternative 2

No comments were received that specifically addressed this section.

5.3.1.4 No-Action

No comments were received that specifically addressed this section.

5.3.2 What would the loss of existing madrone imply in terms of (1) regulations, (2) functional values of madrone forest on the site, and (3) regional distribution of madrone?

5.3.2.1 Proposed Action

Comment

5.8.4 5.10.5. Another example of confusion regarding madrone reforestation. Will it be planted, or left to reestablish naturally?
Kuperberg, J. Michael, Ph.D.

Response

Under the proposed action, the site would be revegetated with Douglas-fir, but some madrone would likely regenerate spontaneously in mined areas (Section 5.3.2). Mitigation measures would replace the proposed Douglas-fir revegetation plan with madrone reforestation (Section 5.4.3).

Comment

Section 5.3.2.1 Proposed Action, Overview. Burns and Honkala (1990) states that Madrone usually become established in disturbed areas, favoring mineral soils free from organic materials. How does the proponent propose to revegetate the site with madrone after they have used organic material and imported topsoil? Will there be a monoculture replanted on the site? Douglas fir also seed on mineral soil (thus the community composition), but they and madrone naturally seed in the exposed pits of blowdowns. The pit and mound topography resulting from natural forest succession both maintains the vegetative composition and moisture regime required for successful regeneration. While madrone and Douglas-

fir seed on mineral soil, a layer of detritus over the seeds prevents dehydration. No reclamation effort on steep, disturbed slopes, using imported materials, can replicate this forest. The entire habitat reclamation section contains similar disregard for conditions particular to the mine site.

Boyle, Matthew

Response

Madrone regenerate preferentially on exposed sand and may be the most suitable tree available for restoration. Please note that the entire project, including mitigation measures, are conceptual and are not at the design stage. Design details are not required, and not encouraged under SEPA [WAC 197-11-055 (4)].

Comment C-5.007

(part 2 of 8) The DEIS also does not address the importance of this plant community on the region's biodiversity.

Vashon-Maury Island Community Council

Comment C-5.015

(part 1 of 2) The DEIS does not address implications of forest loss on biodiversity or the genetic pool of species.

Vashon-Maury Island Community Council

Comment C-5.002

With respect to the proposed project, the DEIS does not address island biogeography, vulnerability to extinction of species, the cumulative effect on biodiversity, implications for genetic diversity of plant and animal species, and fails to address the intrinsic value of natural systems.

Vashon-Maury Island Community Council

Comment

The DEIS does not address the impact of this proposed project on the biodiversity nor the genetic diversity of the madrone plant community on this island.

Collier, Pat

Comment

The DEIS fails to address the intrinsic value of natural systems.

Collier, Pat

Comment

The DEIS does not address the implications of this proposed project for the genetic diversity of plant and animal species on this island.

Collier, Pat

Comment

The DEIS does not address island biogeography.

Collier, Pat

Comment The DEIS does not address the increased vulnerability to extinction of species on a small island.

Collier, Pat

Response Section 5.2.2.2 has been revised to include analysis of and mitigation measures to address impacts on biodiversity. Due to its limited spatial scope, the action is not expected to influence regional genetic diversity. The theory of island biogeography is not relevant to likely impacts since it is conceptual and speculative. The "intrinsic value of natural systems" is vague, because the EIS as a whole addresses the value of natural systems in great detail.

Comment C-5.016 The DEIS does not address the probability that revegetation of the plant community has better chances of success with mining at the current rate, that the seed source will be more extensive, that more habitat will remain available for wildlife, that more biodiversity will be retained, and that a larger genetic pool for each species will be retained.

Vashon-Maury Island Community Council

Comment I-14.004 The real issue **…** the ecosystem of plant and animal life … the lost continuity of the forest cannot be regained, even though the madrone might be replaced.

Smith, Eugene A.

Response Comments express opinion and warrant no further agency response.

Comment O-1.226 What documentation exists to support the statement that SNHP does not consider the 74-acre mixed madrone forest as "high-quality"?

Ortman, David

Response As noted in Section 5.2.2.2, the project site is not on the WNHP list of high-quality vegetation communities.

Comment O-1.238 p. 5-11. It states that clearing of madrone (assuming Best Management Practices) is not prohibited. Please reference the BMP's mentioned here.

Ortman, David

Response

There is no applicable federal, state, or local law or ordinance that prohibits clearing of madrone forest. The FEIS has been revised to make it clear that forest clearing on the site would be conducted in accordance with provisions of the King County Code and the Washington Forest Practice Rules, as applicable. These regulations do not specifically reference madrone forest.

Functional Values

Comment I-2.003

Can this region really stand to lose the 140 acres of madrona forest that grows here?

Clark, Rose

Comment I-3.002

… DEIS does not adequately address: the removal of one of the few remaining healthy stands of madrona and its significance as habitat for many native species of birds and mammals …

Pearce, Judith Wood

Comment I-11.008

The proposed mining will destroy this madrone grove and destroy habitat for these very important local species.

Elizabeth Parrish/John Rees

Comment I-1.034

… no analysis of madrone forest in relation to loss, fragmentation, stand size, and human disturbance in the region in general.

Shipley, Frank

Response

Section 5.3.2 assesses the impacts on the site madrone forest both with respect to the site and the regional distribution of madrone. Under the proposed project, part of the existing madrone forest on-site would be replaced permanently by Douglas-fir forest, but it is likely that significant stands of madrone would regenerate naturally on-site. Loss of madrone forest could be completely mitigated following the mitigation measures identified in Section 5.4.3. Impacts to habitat resulting from forest fragmentation, stand size, and human disturbance are addressed in (revised) Sections 5.3.2 and 5.3.3 of the FEIS.

Comment C-5.010

(part 3 of 4) The DEIS does not address ... the importance to the region of this plant community, or the probability that in more than the 4,000 years it would take to mine the site at present levels the madrone is more likely to revegetate itself. The DEIS use of the term “reactivating” is misleading since the proposal is for mining

at levels four times greater than has ever occurred.
Vashon-Maury Island Community Council

Comment C-5.010

(part 1 of 4) The DEIS does not adequately address the conservation significance of the madrone forest as habitat for species of concern and for winter feeding of birds.
Vashon-Maury Island Community Council

Response

The revised FEIS notes the conservation significance of madrone forest habitat (Section 5.2.2.2). Partly because of this significant habitat value, additional measures to ensure re-establishment of madrone forest on the site have been added to Section 5.4.3 of the FEIS.

Comment I-1.007

… applicant notes that madrone is a disturbed site species, but claims that the habitat to be eliminated by the proposed action as not representative or natural because the stands were created by disturbance (logging or fire).
Shipley, Frank

Response

The revised FEIS discusses site history and finds that the site has a long history of human intervention.

Comment C-5.007

(part 3 of 8) The DEIS also does not address … the impact on the overall tree canopy and loss of tree canopy.
Vashon-Maury Island Community Council

Comment

The DEIS does not address the inconsistency of the proposed project with forest practices laws as they pertain to islands. The DEIS does not address the impact on the overall tree canopy, a resource in rapid decline in the Puget Sound region, of the island and of the region. The DEIS does not address the impact of loss of tree canopy.
Collier, Pat

Response

The DEIS addresses impact on tree canopy by noting that the canopy will be temporarily removed. There are no effects specifically attributable to loss of tree canopy because the understory and below-ground communities will also be removed to permit mining of gravel. Thus canopy impacts are subsidiary to the temporary removal of forest, an impact that is addressed in both the DEIS and the revised FEIS. Impacts due to habitat alteration are discussed in detail in Sections 5.3.2 and 5.3.3.

Comment C-5.007 (part 5 of 8) The DEIS also does not address … the increased vulnerability of madrones to fungal infections when they are disturbed by human activity.
Vashon-Maury Island Community Council

Comment The DEIS does not address the increased vulnerability of madrones to fungal infections when they are disturbed by human activity.
Collier, Pat

Response The revised FEIS addresses how the proposed action might affect madrone decline by various mechanisms, including fungal infection.

Comment C-5.007 (part 6 of 8) The DEIS also does not address … the potential for further invasion of non-native species in madrone forest.
Vashon-Maury Island Community Council

Comment The DEIS does not adequately address the potential for further invasion of non-native species in the madrone forest on this island if this project proceeds.
Collier, Pat

Response There is no evidence that the proposed action would affect the rate of invasion by non-native species in existing madrone forests. The FEIS does address revegetation strategies to control weeds in areas being revegetated following mining.

Comment C-5.007 (part 4 of 8) The DEIS also does not address … the genetic diversity of this plant community on the island.
Vashon-Maury Island Community Council

Response Because the number of individual plants to be removed is very small relative to the total local population of any species present, there would likely be no loss of genetic diversity. However, the very small chance that genetic diversity of madrone on the island would be affected by temporary clearing and replacement by Douglas-fir seedlings, mitigation measures have been identified in Section 5.4.3 calling for revegetation of cleared madrone forest with madrone seed collected onsite.

Comment O-1.227 This section states that the leaf litter of the madrones and relatively dense understory of salal and sword fern “provide good habitat for

small mammals, amphibians, and reptiles". However, in Section 5.2.2.1, p. 5-6 it states, "amphibian use of the site is expected to be limited." This is just another of an enormous number of, in the words of the Seattle Corps District Engineer, "missing, inadequate, and erroneous information" that plague Jones & Stokes DEISs. Decisionmakers and the public can not properly evaluate a DEIS when such problems infests the document. Please clarify whether the site provides "good habitat" p. 5-7 or "fairly good habitat" p. 5-6 for amphibians.

Ortman, David

Response

Amphibian habitat on the site is limited because the site is very dry. Leaves, however, may maintain sufficient moisture for use by salamanders and frogs.

Comment I-8.002

Table S-4. "Clearing would delay development of [woodpecker] habitat on site by about 50 years", yet this is interpreted as "No Significant Adverse Impact". The truth is that a pure Madrone stand will not return within 50 years; probably never.

Kritzman, Ellen B.

Response

The delay in establishment of ideal woodpecker habitat is not a significant unavoidable impact because (1) the site currently does not provide ideal habitat; (2) no pileated woodpeckers are currently known to nest on the site; (3) habitat is currently available in nearby adjacent areas; and (4) habitat could eventually be established under the proposed action with mitigation. In the absence of human intervention, disused parts of the current mine have developed patches of pure madrone within the past 20 years.

Regional Distribution

Comment

The DEIS does not adequately address that the madrone forest on SE Maury Island (of which this site is a part) is one of the most extensive in the state. The DEIS does not address what percentage or portion of this plant community on Maury Island would be destroyed by this project. The DEIS does not address the importance of this plant community as an important component of the region's biodiversity.

Collier, Pat

Comment

Section 5.2.2.2, paragraph 3. The scoping comments regarding the madrone forest may have been technically inaccurate, but I believe

the intent remains the same. Combined, the Douglas fir and madrone communities on Maury Island constitute the largest forest complex of this type in Washington State.

Boyle, Matthew

Comment G-3.014

(part 1 of 2) Section 5 3 2. Loss of Existing Madrone The assertion that "within the regional context of King County and the Puget Sound region, the magnitude of this loss would be low," may be true, but world-wide, madrone exist only within 50 miles of marine shorelines in northwestern United States and northeastern China. These trees are rare world-wide, and large contiguous stands such as the one that exists on this site can be counted on two hands.

People for Puget Sound

Response

The assertion that "madrone exist only within 50 miles of marine shorelines in northwestern United States and northeastern China" is incorrect. The range of our local madrone, *Arbutus menziesii*, extends from California to British Columbia, as far inland as the Sierra Nevada mountains. Moreover, the species is most abundant in the Siskiyou and Klamath Mountains of northwest California and southwest Oregon, where healthy populations still cover tens of thousands of acres. Closely related species of madrone occur in Texas, New Mexico, Arizona, northwest Mexico, and many other areas around the world, often in sites hundreds of miles from the nearest ocean.

Comment C-8.012

That removal of madrone forests is not controlled by regulation does not mean that the removal of significant tracts will have no environmental impact. Describe the number and location of madrone forests of similar size in Puget Sound and the location of larger forests. The unique element here is that the area to be deprived of the madrone forest is an island. It has limited resources which cannot be regenerated easily. Please discuss the percentage of Maury Island's madrone forests that will be destroyed by the strip mine.

Vashon-Maury Island Community Council

Comment 1.251

Plant or animals/Proposed Action: It states that the loss of madrone on the site would be more notable since development has removed much of the other existing madrone. Please provide an estimate of the acreage of remaining madrone on Maury Island.

Ortman, David

Comment O-1.223

5.2.2.2 pp. 5-6/5-7. It states that stands of madrone forest larger than 40 acres are becoming rare in the region. How many stand larger than the 74 acres on the site exist in the Puget Sound region?

Ortman, David

Comment O-1.224

It states that two stands of madrone have been identified by the WNHP at two other locations on Maury Island. What is the size of these two stands? What is the ownership of the stand located on the southern and southwestern tip of Maury Island?

Ortman, David

Comment O-1.225

How many stands of madrone forest larger than 40 acres exist in southern Puget Sound (that is, south of Maury Island)?

Ortman, David

Comment O-1.229

What is the current acreage of madrone stands on Maury Island? What is the current estimated acreage of madrone stands in south Puget Sound (south of Maury Island)?

Ortman, David

Comment C-5.007

(part 1 of 8) The DEIS does not address the madrone forest as one of the most extensive in the state, or what percentage or portion of the forest community would be destroyed by this project.

Vashon-Maury Island Community Council

Comment C-5.010

(part 2 of 4) The DEIS ... fails to address difference between occurrence of specimens which are still "relatively common" and the uncommon occurrence of the madrone plant community.

Vashon-Maury Island Community Council

Comment I-1.006

… applicant considers the loss of this [madrone] forest to be inconsequential because it is second growth, … because other madrones grow on Maury island, and around Puget Sound, … and because the Natural Heritage Program does not specifically mention this project site.

Shipley, Frank

Comment C-5.007

(part 7 of 8) The DEIS also does not address ... rarity of madrone-dominated forests. The DEIS does not state whether an evaluation of this site was made by the Washington Natural Heritage Program (WNHP) and what their determination of significance was, or the WNHP ranking of the Douglas fir-Pacific madrone community as Priority 1, nor the reason for this ranking. The DEIS implies that pure stand of madrone are not natural ecosystems, and fails to address the probability that pure stands occur in conditions not as suitable for Douglas fir.

Vashon-Maury Island Community Council

Comment

Though it states "Forests on the Lone Star site were not identified by the WNHP as high-quality madrone woodlands" the DEIS does not divulge whether an evaluation of this site was actually made by the Washington Natural Heritage Program, nor what was their determination of the significance of this site.

Collier, Pat

Response

The WNHP inventories 23 significant madrone stands in western Washington, all of which are in the Puget Sound area. Of these, two stands — both on Maury Island — are larger than 74 acres. WNHP has identified a 207-acre stand in northern Maury Island (vicinity of T22N R3E S22) and a 90-acre stand near the southwest tip of the island (T22N R3E S31). No inventoried stands south of Maury Island are larger than 40 acres. The madrone stands on Maury Island include areas of both public (King County) and private ownership. In general, significant stands identified by WNHP are located primarily on public land. The stand on the site is not inventoried by WNHP.

The population dynamics of madrone on the proposed project site are described in Section 5.2.2.2. Madrone is currently self-sustaining on the site, and it is expected that madrone would continue to regenerate to some extent under the proposed action. Mitigation measures described in Section 5.4.3 would exclude revegetation using Douglas-fir, and would call instead for reseeding of mined areas with madrone seed collected onsite. These measures would likely lead to increased madrone cover on the site relative to current conditions, although several decades would pass before forests resemble the existing stands. Restoration conducted according to the mitigation measures identified in Section 5.4.3 would create a mosaic of differently aged madrone forests on the site, providing high structural and habitat diversity.

5.3.2.2 Alternative 1

No comments were received that specifically addressed this section.

5.3.2.3 Alternative 2

No comments were received that specifically addressed this section.

5.3.2.4 No-Action

Comment

The DEIS does not address the probability that revegetation of the plant community has better chances of success with mining at the current rate, that the seed source will be more extensive, that more habitat will remain available for wildlife, that more biodiversity will be retained, that a larger genetic pool for each species will be retained. The DEIS does not address the probability that the no-action alternative, with smaller mined areas, will provide a greater proportion of undisturbed habitat which would act as a 'bank' supplying greater possibility of protecting genetic diversity and biodiversity for the island and for restoration of the mined areas. The DEIS does not address the probability that more of the functional values of madrone forest will be retained with the no action alternative.

Collier, Pat

Response

As noted in the DEIS, under the No-Action Alternative, "madrone would be lost very slowly as mining progresses."

5.3.3 Over the life of the mine, what is the overall effect on habitat of reactivating high-production mining on the site?

Habitat Loss

Comment

Section entitled "Reduced wildlife habitat onsite". The topic of "reestablished madrone forest" needs to be resolved. Does the applicant propose to reestablish madrone or not? If so, how long will it take for the forest to mature? What mechanism will exist to ensure that the reestablishment is successful? How will invasive plants be addressed?

Kuperberg, J. Michael, Ph.D.

Response

The Applicant proposes to revegetate the site with grasses and Douglas-fir. Reestablishing madrone is a mitigation measure that could be placed as a condition of the project by King County. Monitoring is described in the FEIS as a way to ensure that mitigation targets are met.

Comment I-21.013

EIS-"This areas has little or no value to local habitat during mining." How can they claim that?!
Baker, Alby

Response

Active mining areas would be essentially exposed sand. These areas are not expected to provide good wildlife habitat.

Comment C-5.008

The DEIS does not address the impact on survival of cavity nesting birds by delaying development of habitat for 50 years.
Vashon-Maury Island Community Council

Response

The FEIS contains a discussion of impacts on cavity-nesting birds in Section 5.3.1.

Comment G-2.015

Will surrounding residential areas be impacted by wildlife displaced by the project?
Washington Environmental Council

Comment C-7.016

What will be the impact of numerous displaced small animals on Maury Island? Will the feces of dead animals contaminate the water?
Brown, A.

Response

No. Some deer or other animals may be scared or displaced from the site and, therefore, travel to surrounding areas. However, the animals are not expected to move to Sandy Shores or Gold Beach in great numbers, since these areas are developed and since less habitat is available in these developed areas. Figure 1-4 illustrates the distribution of developed and undeveloped areas near the site. Animals are most likely to use undeveloped lands.

Comment G-2.015

(part 4 of 4) What studies have evaluated the result due to loss of habitat for terrestrial wildlife?
Washington Environmental Council

Response

Impacts on terrestrial wildlife are based on an evaluation of the habitat that would be lost and the species associated with that habitat, with special emphasis placed on sensitive species.

Comment I-2.004 What is the potential loss of habitation impacts for migrating birds?

Clark, Rose

Response Habitat would be reduced at the site for migrating birds. The most notable species is band-tailed pigeon, which is discussed in the FEIS.

Comment I-3.022 If King County is trying to protect and preserve wildlife habitat … why would they allow destruction of critical habitat.

Pearce, Judith Wood

Comment I-5.002 The EIS fails to adequately evaluate the potential threats that this mining activity poses to the fragile island habitat.

Davis, Jennifer

Response Chapter 5 of the EIS has been revised to include a review of King County polices, as well as numerous mitigation measures to protect and preserve wildlife habitat. The decision-maker will consider using some or all of these measures, or perhaps even additional measures, as part of the decision regarding the grading permit.

Habitat Alteration

Comment Section entitled "Potential for reclaimed areas to develop stands [of invasive, weedy species]" The applicant states that "Native plant communities would develop over time and become similar to existing forests in about 50 years". Does this take into account the 11-75 year lifetime of the project. If could be considerably longer than 50 years from the beginning of the project before the site would be "similar to existing forests".

Kuperberg, J. Michael, Ph.D.

Response The effects on restoration due to potential rapid mining of the site have been included in the FEIS (Section 5.4.3), and mitigation measures are included in Section 5.4.3.2 (Terrestrial Mitigation 1, element j).

Comment I-15.006 … disturbance and threat to habitat, such as ... birdlife and an ancient madrona stand (one of the largest in the county).

Skeffington, Beverly

Response

Impacts on wildlife and madrone are addressed in Chapter 5 of the FEIS.

Comment C-5.009

The DEIS does not address that species would have more time to adapt to changing habitat with the current rate of mining, and that habitat restoration may more likely keep pace with current levels of mining.

Vashon-Maury Island Community Council

Comment

Comparing change over 11 years, which may occur with this proposed project, to change over more than 4000 years, at current mining levels, as having "similar impacts" is putting an absurd spin on the facts. The DEIS does not address that species would have much more time to adapt to changing habitat with the current rate of mining. The DEIS does not address that habitat restoration may more likely keep pace with mining at the current levels of mining. The DEIS does not address the probability that in the more than 4000 years it would take to mine the site at present levels the madrone plant community is more likely to revegetate itself.

Collier, Pat

Response

No-Action would obviously have a much lower impact to wildlife than would any of the action alternatives. The FEIS has been revised from the draft to more clearly reflect this fact.

Effects of Disturbance

Noise and Light Impacts

Comment C-5.001

The DEIS does not address the effects of noise and artificial light on wildlife.

Vashon-Maury Island Community Council

Comment

The DEIS does not address the effects of noise and artificial light from this proposed project on the wildlife of this island.

Collier, Pat

Comment C-8.070

(part 7 of 7). #70 (in part). In its comments on the DuPont DEIS, letter 2, dated 2/18/92, the United States Department of Interior Fish and Wildlife Service noted the following, "Typically, noise models use the 24 hour day-night sound level (Ldn) to project average noise levels. While useful for evaluating projects in urbanized areas, these models are not appropriate for evaluating

impacts to wildlife. The assessment of noise effects on wildlife needs to address the effects of the single loud noise event". Assess noise impacts on wildlife and on horse farms in the vicinity of the site.

Vashon-Maury Island Community Council

Comment C-8.073

(in part) There is no evaluation of the noise levels on wildlife…please include discussion of noise impacts from dock repairs on these species, horses, and wildlife as well (see also section 7.5 and 6.3.7).

Vashon-Maury Island Community Council

Comment A-1.029

Chapter 7 (Noise). There will be definite noise impacts to marine life from barge loading and traffic operations. The impacts should be addressed in this section.

Washington Department of Natural Resources

Response

The EIS notes that noise and activity would disturb some animals and cause them to leave the site.

The project does not involve blasting, which is typically the area of concern regarding the effects of mining noise on wildlife.

Animals are more startled by random, instantaneous noises than they are by constant noises. Some animals are expected to become accustomed to noises, similar to the way animals have along major highways. Horses and other domestic animals, being closely associated with humans, are even more tolerant of noise.

The project would require minimal lighting and, therefore, would have no probable significant adverse impacts on wildlife.

Site Buffer

Comment

A 50-foot buffer is not even close to providing a habitat for animals. During our inventories, we have observed eagles and herons fishing and resting on the property. We could show you what we term the "eagle trees" where these magnificent creatures can be found. Coupled with the madrone forest growing on the property, a unique ecosystem is finally beginning to emerge after the property was mined over thirty years ago.

Rossi, Michael & Marlene

Comment C-12.014

Overall effect on habitat—the buffer zones will not provide suitable habitat. The fact that the reclaimed sites will not contain any of the displaced species is a major concern. Reclaimed sites

will not provide habitat for rarer and more sensitive interior species.

St. George, Brian

Response

Buffers are based on standard setbacks. Additional setbacks and buffers are being considered where warranted by special circumstances.

Comment

S3.4 What are the expected impacts of the mining operations on the proposed 50-200-foot buffers? Will those portions of the buffer immediately in contact with the mining operations be affected? If so, what are the expected results of these impacts? What are the proposed responses if operations begin to adversely impact the buffer area? Will the applicant be required to maintain a health buffer?

Kuperberg, J. Michael, Ph.D.

Response

The FEIS identifies potential impacts to buffers (Section 5.4.3.1) and includes a mitigation measure to require that vegetation be retained and, if currently absent, restored within buffers (Section 5.4.3.2).

Comment

If the site is currently forested, the buffers will serve no habitat function and are meaningless to interior forest wildlife communities because of "edge effects" — the effect of elements and predation on wildlife populations when they are exposed to the edge of a forest. The 14 percent remaining open space will not provide habitat to many species other than crows and robins.

St. George, Brian

Response

Chapter 5 discusses the expected wildlife use of restored habitat, including how such use would change over time as the habitat develops.

5.4 Adverse Impacts and Mitigation

5.4.1 Significance Criteria

Comments and questions related to significance are listed under the individual issues.

5.4.2 Measures Already Proposed by the Applicant or Required by Regulation

Wetland Creation

Comment C-5.011

The DEIS does not describe when or how wetland creation would be achieved, if it is feasible, or what the probable success rate is. The DEIS ignores Lone Star's environmental consultants' conclusions. At another site, ponds created by mining are turbid and not very biologically productive. The DEIS does not discuss implications for the island's natural systems of creating wetlands on dry, exposed, southerly facing slopes.

Vashon-Maury Island Community Council

Comment O-1.244

5.4.1.2 p. 5-15. It states that Taiheijo Cement Corp. has suggested that a small wetland community could be planted around the retention pond at the foot of the slope. Please clarify whether one or two retention ponds are proposed. Retention ponds are poor locations for wetland creation projects. They have an unnatural water level fluctuation that is detrimental to many wetland communities. Please describe how such a created wetland would be designed and who would perform and monitor the work.

Ortman, David

Response

These are design issues and not issues to be addressed at the EIS stage of environmental review. As described in other responses, WAC 197-11-055 (4) states that:

If an agency's only action is a decision on a building permit or other license that requires detailed project plans and specifications, agencies shall provide applicants with the opportunity for environmental review under SEPA prior to requiring applicants to submit such detailed project plans and specifications.

Soil Augmentation

Comment C-5.012

The DEIS does not address heavy metal content of the vegetation on the site. If concentrations are high is this an appropriate use for the cleared vegetation? The DEIS does not address how much topsoil will be needed, or how it will be brought in. If by truck, what will be the impact on roads, traffic congestion, ferry congestion? If by barge, how will it be offloaded? What will be the impacts in the nearshore environment?

Vashon-Maury Island Community Council

Comment C-8.037

Clarify what protocols will be used to analyze arsenic levels in vegetation to be mulched.

Vashon-Maury Island Community Council

Comment C-8.095

5 4 1 #95. Section 5.4.1.3 Soil Augmentation, states that existing topsoils will largely be unavailable for reclamation, and, therefore, soils will be manufactured on site or off site soils will be brought in. Please discuss the testing protocols which Lone Star N W utilizes in selection/ acquisition of soils when they must be purchased and/or obtained for reclamation. Please discuss what chemical testing will be required for all materials used in manufacture of topsoils, including onsite vegetation.

Vashon-Maury Island Community Council

Comment

The DEIS does not address how much topsoil will be needed for reclamation. The DEIS does not address how this will be brought in, by what means. If by truck the DEIS does not address the impact on our roads, traffic congestion, ferry congestion. If by barge, how will it be offloaded? What will be the impact on the nearshore environment?

Collier, Pat

Response

Most site topsoil would not be available for reclamation. Vegetation may have some arsenic, but it would probably not be in a form that would cause significant effects on human health. Many mitigation measures have been developed to help reduce human and environmental health risks associated with contaminated soils. Testing protocols would be developed during detailed design phase. More information on potential arsenic in site vegetation and topsoils is provided in Chapter 10 of the FEIS and in Comments and Responses for Chapter 10.

5.4.3 Remaining Adverse Impacts and Additional Measures

Madrone Reforestation

Comment

The site reclamation plan must also contain assurances that noxious weeds (as defined by King County Noxious Weed Board) must not be allowed to take over the site after mining is complete. I am particularly concerned about Scots Broom because of it's long-term tenacity (many of us are terribly allergic to Scots Broom). I am also concerned about weeds like tansy that are poisonous to animals and livestock. This DEIS does not discuss how Lone Star would guarantee protection against these invader weeds.

Means, Shelley

Response

The FEIS addresses noxious weeds.

Comment O-1.237

How would madrone become established in disturbed areas, if reclamation areas are immediately reseeded with Douglas-fir?

Ortman, David

Comment C-8.036

This section does not suggestion [sic] reestablishment of madrone forests, as was suggested earlier.

Vashon-Maury Island Community Council

Comment C-12.0013

Reduction of madrone—"These losses could be offset over time by proper site reclamation" is not valid because Lone Star has show it intends not to conduct proper reclamation.

St. George, Brian

Comment I-1.008

… nothing the applicant proposes will result in restoration of the current biological values for terrestrial habitat.

Shipley, Frank

Comment I-8.003

"… Madrone forests and other wildlife habitats could be re-established on reclaimed lands." This simply won't work.

Kritzman, Ellen B.

Comment O-1.246

5.4.2.2 p. 5-16. Why has the Taiheijo Cement Corp. refused to carry out madrone reforestation on the site?

Ortman, David

Comment O-1.241

p. 5-13. What is the purpose of planting the floor of the mine with Douglas-fir, particularly when it states, "This would probably not restore madrone forest on the site … ".

Ortman, David

Comment O-1.243

p. 5-14 states that "native plant communities would develop over time and become similar to existing forests in about 50 years". This does not appear to be an accurate statement if the floor of the mine is planted with Douglas-fir which "would probably not restore madrone forest on the site. …" This is just another of an enormous number of; in the words of the Seattle Corps District Engineer, "missing, inadequate, and erroneous information" that plague Jones & Stokes DEISs. Decisionmakers and the public can not properly evaluate a DEIS when such problems infests the document. Please clarify how native plant communities would be develop when Taiheijo Cement Corp's proposes to plant the site in Douglas-fir.

Ortman, David

Comment I-1.004

The discussion of reclamation ... is generic and vague, and commits only to hydroseeding newly created slopes … with seeds to be "determined at the time of seeding" and planting the bottom of the created excavation with Douglas-fir.

Shipley, Frank

Comment O-1.240

p. 5-12. This section states that only up to 64 acres of the site would be of little value to wildlife at one time. This is incorrect. Under the fastest mining outcome, the site could be depleted in as little as eleven years (p.2-2). Reclamation of the site can not possibly take place this rapidly ("Reclamation areas would provide willow flycatcher habitat at about 5 to 20 years of age" p. 5-9), ("Clearing would delay the development of habitat on the site by about 50 years." p. 5-9) ("native plant communities … would develop over time and become similar to existing forests in about 50 years." p. 5-14). Please change this statement to read: "While up to 64 acres of land will be subject to mining or immediate reclamation activities, mined out areas would be subject to an ongoing decades long reclamation process."

Ortman, David

Comment

Site reclamation discussions in the DEIS are incredibly vague. King County must require Lone Star's proposal to specify the reclamation design and the acceptable quantity of native plants and wildlife habitat features. The final analysis in the FEIS must include the specifics -- it is not acceptable to say "Reclamation would follow DNR guidelines and may include use of native plants,etc." In the case of this incredible and unique stand of

madrone trees, the native plants used to reforest the site MUST be madrones, and Lone Star MUST commit to the timeframe, expense and diligence madrone reforestation would require.

Means, Shelley

Comment

5.17.4. It is agreed that planting Douglas-fir on the site would "not restore madrone forest on site".

Kuperberg, J. Michael, Ph.D.

Response

The proposed action to replant the site with Douglas-fir following mining would result in replacement of much of the madrone forest by Douglas-fir, as discussed in Section 5.3.2, although natural regeneration of madrone would likely occur over many mined areas. Additional mitigation measures to reduce adverse impacts have been added in a newly developed Section 5.4.3. These measures emphasize madrone forest restoration. The additional measures would require demonstrated success at madrone revegetation during the initial phases of mine operation, such that later phases would be conditional upon demonstrating successful revegetation of areas mined in earlier phases (see Terrestrial Mitigation 1, element c). Upon the conclusion of mine operations following the mitigation measures identified in Section 5.4.3, there would be greater madrone forest cover onsite than under current conditions.

It *is* appropriate that details of the reclamation plan would be developed as part of design, and not in the EIS [WAC 197-11-055(4)].

Comment

5.17.3 What depth to groundwater would be a concern for madrone?

Kuperberg, J. Michael, Ph.D.

Response

The 15-foot separation proposed by the Applicant is sufficient to allow good drainage for madrone.

Comment C-5.015

(part 2 of 2) The DEIS ... does not address the rate of revegetation as each mine segment is completed, or the probable proportion of the forest that will be lost at a time and fails to address the potential loss of species even after revegetation is completed.

Vashon-Maury Island Community Council

Response The (revised) FEIS addresses the rate and spatial pattern of forest succession during the mining process. No species are expected to be lost following site restoration.

Comment C-8.009 Analyze the terrestrial impacts of strip mining over 4,000 years as opposed to 11 years. Please discuss the historical mining of the site clearly in relationship to the Proposed Action or alternatives 1 and 2.

Vashon-Maury Island Community Council

Response A discussion of historical use of the site and its implications for long-term ecosystem change have been added to Section 5.2.2.2.

Comment C-2.008 The applicant should be required to provide and maintain an integrated pest management plan. Management systems that provide for the safe use of pest control chemicals, including proper storage, training, and personal protective equipment, should be addressed for public comment.

Ernst, William

Response There is no evidence that pest management will be required.

Comment G-2.015 (part 2 of 4) What methods does the applicant intend to use for the "control of Scot's broom and other plants that may discourage the establishment of madrone?" Will these methods be environmentally sound?

Washington Environmental Council

Comment O-1.245 It states that invasive plants could be controlled by active removal. Please describe "active removal". What is the estimated amount of herbicides that would be used on the site over the 50 year reclamation period?

Ortman, David

Comment O-1.247 How would Scot's broom be controlled on site? Would herbicides be used? If so, in what annual quantity?

Ortman, David

Comment 4 (of 22). On Table S-4, Plase provide information regarding the risks the herbicides for weed control pose for the aquifer, the sedimentation pond, and what effect they will have in the event of

overflow of the pond(s) to the Sound.
Nelson, Sharon K.

Response

Mitigation measures for weed control are included in Section 5.4.3.2. The preferred control method is hand or mechanical weeding, followed by planting with madrone seeds and appropriate tending until the seedlings are well established. Herbicides are not expected to be required. If they ever were required, any use would occur in accordance with all applicable laws and regulations, including the current King County Code.

Comment I-1.005

… solids removed and consolidated due to arsenic contamination … no indication of where offsite soils would come from (or the related impacts) or the efficacy of "manufactured" soils (the biological component of soils cannot be manufactured).
Shipley, Frank

Response

Currently, large areas of the formerly active gravel pit have been revegetated naturally by madrone in the absence of any active site restoration activities. This suggests that to a large degree soils suitable for madrone reforestation can be developed on site. However, it is expected that some offsite cultivation would be required to develop biologically active soils that can be spread onsite to expedite growth and development of young madrone. Moreover, some madrone stock might be transplanted, and understory plants such as salal and evergreen huckleberry could be grown elsewhere and transplanted during revegetation efforts. These issues are detailed in (revised) Section 5.4.3.2.

Comment C-5.013

(part 2 of 2) The DEIS states reclamation could be developed to mimic the natural fire disturbance regime, but fails to discuss how this is consistent with the creation of wetlands mentioned on page 5-15.
Vashon-Maury Island Community Council

Response

The mitigation measures described in Section 5.4.3 would lead to a site restoration plan that does not mimic the natural fire disturbance regime, but that does establish a multiple-aged, structurally diverse madrone forest community on the site. The presence of wetlands within such a forest community is not inconsistent, since wetlands may also adjoin pristine madrone forest habitats.

Comment G-2.015 (part 1 of 4) 5.4.2.2. If madrone reforestation is required by DNR, what steps will be taken to successfully replant the trees? What impacts will this have to the reforestation project?

Washington Environmental Council

Response The trees would not be replanted. Under the Proposed Action, madrone trees on mined lands would be removed and eventually replaced by Douglas-fir seedlings. Impacts to madrone forest could be mitigated by adoption of measures identified in Section 5.4.3, whereby mined areas would be reseeded using madrone seed gathered onsite, thereby preserving existing onsite madrone genetic diversity.

Comment G-2.015 (part 3 of 4) We do not believe the reclamation plan provides adequate wildlife protection and replacement habitat.

Washington Environmental Council.

Response Comment noted. Additional measures addressing wildlife protection and replacement habitat are presented in Section 5.4.3 of the FEIS.

Comment G-3.015 Section 5.4.2.2. Madrone Reforestation. The applicant displays an incredible naiveté on the issue of restoring madrone. The suggestion that madrones could be replanted using "cuttings" is laughable, since even madrone seedlings are notoriously difficult to transplant. Madrone prefer steep slopes, and this section fails to discuss how a madrone forest might be restored in a project site which has been leveled (this section suggests that madrones might like the area graded to within 15 feet of the water table, the level portion of the proposed project). Considering that a contiguous madrone forest has never been successfully restored, it would seem hasty to conclude that impacts could be greatly offset, since madrone forest could be reestablished on reclaimed land. This section also fails to identify adequate sources of clean topsoil for reclamation.

People for Puget Sound

Response Recommended mitigation measures have been revised, and no longer call for growing madrone from cuttings. Most madrone currently growing onsite are not on steep slopes. Most of the site, when restored, will be at a 2:1 slope (30 degrees), which is fairly steep. Continuous madrone forests have not been successfully restored previously because there has been no attempt to do so.

The reverse, preventing madrone from re-establishing itself after logging, has been attempted and has generally failed (Hughes et al. 1990, Wang et al. 1995). Madrone on the site, for instance, have extensively recolonized areas that were actively worked for gravel mining as recently as 1978. Note that these areas had absolutely no topsoil, a factor that apparently favors madrone relative to its competitors (chiefly, Scots broom, Douglas-fir, and red alder). Further details on mitigation measures for madrone reforestation are provided in Section 5.4.3 of the FEIS.

Comment O-1.248

What is the estimated amount of water that would be used annually to irrigate madrone seedlings (repeated in 4.3.1)?

Ortman, David

Response

No estimates have been prepared. It is expected, on the basis of recent work in madrone transplanting (Privett and Hummel 1999), that no irrigation would be required.

Comment C-12.004

The EIS makes no mention of monitoring mitigation or reclamation efforts. It is nice to present all these possible mitigation efforts, without a dedication to monitoring efforts, they are meaningless. This seems especially true considering the life of this project.

St. George, Brian

Response

Monitoring has been added as a potential mitigation measure (Terrestrial Mitigation 1.c). Under additional mitigation measures to be considered, approval for each new mining phase would be conditional on successful revegetation based on targets for plant survivorship and growth (Section 5.3.4.2).

Comment O-1.249

Since madrone stands take up to 50 years to mature, what successful madrone reclamation sites exist?

Ortman, David

Response

The madrone stand onsite, established in the wake of logging and a fire in the mid-1930s, is one example.

Measures to Protect Nesting Birds

Comment C-5.014

The DEIS suggests that seasonal restrictions on clearing and surveys for nesting birds could be used to reduce impacts of clearing during the breeding season. Then what do the birds do the following year? This is an inadequate discussion of the impacts of removing habitat for nesting birds. What will be the impact on the island's bird population? The DEIS omits discussion of the probability that many species do not breed if their usual breeding/nesting areas are disturbed

Vashon-Maury Island Community Council

Comment O-1.252

Plant or animals/Mitigation: It states that preventing clearing from 1 March to July 15 would reduce the potential for affecting nesting birds. Specifically, what kind of nesting birds use this site?

Ortman, David

Comment O-1.250

5.4.2.3 p. 5-18. It states that seasonal restrictions on clearing could be used to reduce impacts on nesting birds. Which species of nesting birds would be protected by this measure?

Ortman, David

Comment C-2.006

Claims of 'negligible impact' and 'minor effects' on bird species should be clearly documented through thorough biological studies conducted before — and confirmed after — the onset of operations, through at least one annual cycle. Until the absence of any significant impact is verified, seasonal restrictions should apply to land clearing and other disruptive operations, including barge loading, to ensure bird species are not negatively impacted during critical life stages, which are not addressed sufficiently in the DEIS.

Ernst, William

Response

There is no question that habitat for nesting birds would be lost as forest is cleared and the minerals are removed. The mitigation measures in Section 5.4.3 are meant to avoid directly killing birds listed under the migratory bird treaty act and/or classified as protected wildlife. Such direct killing is illegal, while habitat removal is not.

The species of birds that would be protected include woodpeckers and other cavity-nesting birds, sparrows, wrens, warblers, jays, and crows.

5.5 Cumulative Impacts

Comment

The DEIS does not address the cumulative effect of altering the natural systems at this site on the biodiversity of this island.

Collier, Pat

Response

Loss of madrone does affect biodiversity, since madrone is becoming uncommon in King County, particularly in large stands. However, subsequent to mining, early stage plant communities would arise that would contribute to biodiversity. Well established, shrubby vegetation can support many different types of wildlife, and may have very high plant species diversity.

Comment O-1.253

5.5 p. 5-18. It states on p. S-5 that a variety of mammals use the project "and possible black bear". However, on page 5-18 it says that the prior to reclamation, the greatest impact of the loss of woodland would be to animals that require a lot of space and cover, "such as bear and deer". This is just another of an enormous number of; in the words of the Seattle Corps District Engineer, "missing, inadequate, and erroneous information" that plague Jones & Stokes DEISs. Decisionmakers and the public can not properly evaluate a DEIS when such problems infests the document. Please clarify whether black bear use the site or not.

Ortman, David

Response

As stated in the EIS, black bears are present on Maury–Vashon Island, and individuals may use the site as part of a larger territory.

Comment C-8.038

The EIS seriously understates the impact of the project on the island. This mine would be equal to about five percent of the surface land on Maury Island, and will bring many of the island's citizens into direct contact with this mine. Discuss the operation's magnitude in relation to the island's self-contained ecological system. Include WAC 173-16-050(4) [islands] and WAC 222-30-110 [timber harvesting] in the EIS and discuss them in relation to the proposed project and alternatives.

Vashon-Maury Island Community Council

Comment C-8.073

<u>There is no evaluation of the noise levels on wildlife</u>, salmonids (listed as endangered species), rockfish, lingcod, Pacific herring, or other wildlife in the area. <u>The cumulative impact section must be redone with adequate attention provided to these factors</u>. Please include discussion of noise impacts from dock repairs on these

species, horses, and wildlife as well (see also section 7.5 and 6.3.7).

Vashon-Maury Island Community Council

Response

The EIS states that noise may disturb wildlife.

5.6 Significant Unavoidable Adverse Impacts

Comment

In a single table, the biased consultants who authored this DEIS claim "No significant impact" of clearing madrones, and "Removal of most of the existing madrone forest and associated wildlife habitat" is an unavoidable adverse impact of mining the site.

Are we supposed to accept, based on this fine analysis, that "No significant impact" and "Significant Unavoidable Adverse Impacts" are the same thing?

Means, Shelley

Comment

The Draft EIS is also very vague about impacts on the ecosystem. It states that "removal of most of the existing madrone forest and associated wildlife habitat is an unavoidable result of mining the site" (Table S-4) although we are talking 140 acres of madrone forest—gone.

de Guzman, Kristine R. and Carlo B.

Response

Madrone are not protected by state or local law. Nevertheless, King County has included many mitigation measures that would protect madrone in the FEIS (Section 5.4.3).

5.7 Citations

5.7.1 Printed References

Adams, A.B., F.J. Harvey, W.T. Crooks and P. Williston. 1999. Habitat physical structure and *Arbutus menziesii* status in Seattle, Washington. Pages 50-64 in A.B. Adams (ed.), The decline of the Pacific madrone (*Arbutus menziesii* Pursh): Current theory and research directions. University of Washington. Center for Urban Horticulture. Seattle, WA.

Bressette, D.K. and C.W. Hamilton. 1999. Determining causes of decline of Pacific madrone in urban landscapes of the Pacific Northwest. Pages 83-92 in A.B. Adams (ed), The decline of the Pacific madrone (*Arbutus menziesii* Pursh): Current theory and research directions. University of Washington. Center for Urban Horticulture. Seattle, WA.

Elliot, M. 1999. Diseases of Pacific madrone. Pages 42-49 in A.B. Adams (ed.), The decline of the Pacific madrone (*Arbutus menziesii* Pursh): Current theory and research directions. University of Washington. Center for Urban Horticulture. Seattle, WA.

Hughes, T.F., J.C. Tappeiner, and M. Newton. 1990. Relationship of Pacific madrone sprout growth to productivity of Douglas-fir seedlings and understory vegetation. Western Journal of Applied Forestry 5:20-24.

Privett, D.W. and R.L. Hummel. 1999. Nursery production and landscape establishment of *Arbutus menziesii*. Pages 103-106 in A.B. Adams, editor, The decline of the Pacific madrone (*Arbutus menziesii* Pursh): Current theory and research directions. Seattle, WA: University of Washington Center for Urban Horticulture.

Wang, Zheng Qi, M. Newton, and J.C. Tappeiner. 1995. Competitive relations between Douglas-fir and Pacific madrone on shallow soils in a Mediterranean climate. Forest Science 41(4):744-757.

5.7.2 Citations in Comments

See comment letters in Volumes 5 and 6 for references cited in comments.